Collins mobile transceiver

KWM-2

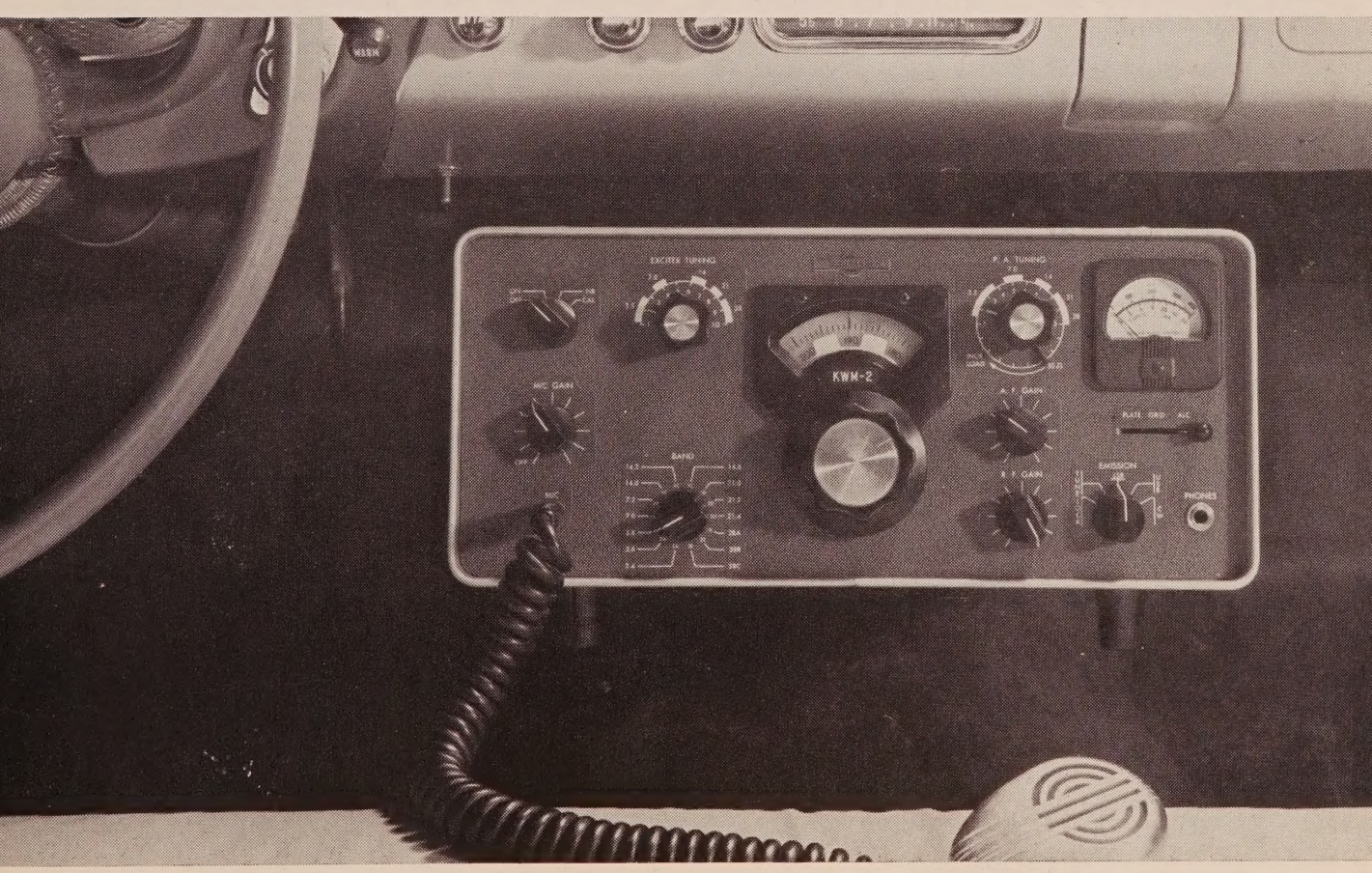
Another Collins creative design – the advanced amateur's 80-10 meter transceiver – system engineered for mobile and home operation.

Superior single sideband performance in a variety of installations is assured by the Collins KWM-2 Mobile Transceiver. Engineered for the amateur who desires an 80 through 10 meter mobile transceiver, the KWM-2 design incorporates time-proven and advanced communication concepts.

The Mobile Transceiver provides outstanding frequency stability on fourteen 200 kc bands from 3.4 mc to 30.0 mc. With 175 watts PEP input on SSB, or 160 watts on CW, the KWM-2 provides ample power for dependable amateur communication. Filter type SSB generation, Collins permeability-tuned variable oscillator, crystal-controlled HF double conversion oscillator, VOX and anti-trip circuits, and exclusive ALC and RF inverse feedback are among the features of the KWM-2. The Collins Mechanical Filter, RF amplifier, all tuned circuits, and several tubes perform the dual role of transmitting and receiving. CW break-in and monitoring sidetone circuits are built-in, and all four plugs in the mobile mount connect the KWM-2 automatically. A connector on the rear provides for antenna selection or loading coil selection for mobile operation.

The Collins KWM-2 Mobile Transceiver weighs 18 lbs. 3 oz. and measures 7¾" H (including legs), 14¾" W, and 13¼" D. Mounts, accessories, and power supplies are available for 12 v dc, and 115 v ac operation.

See the KWM-2 now on display at your Collins Distributor. Ask for the colorful KWM-2 brochure with complete specifications.



As advertised in the 1960 *RADIO AMATEUR HANDBOOK.*

PRINTED IN U.S.A.

Collins

superiority in single sideband systems

S/LINE

The S/Line is a complete station for the advanced amateur. The 32S-1 Transmitter and 75S-1 Receiver may be operated separately or as a transceiver in which the receiver controls the transmitter frequency. The 312B-4 Speaker Console integrates the two units further with over-all station control, and control of a directional wattmeter for maximum output efficiency. For the amateur desiring the strongest signal, the 30S-1 Linear Amplifier provides maximum legal output with greatly simplified operation.

32S-1 Transmitter

The 32S-1 is an SSB or CW transmitter with a nominal output of 100 watts on all amateur bands between 3.5 and 29.7 mc. Input power is 175 watts PEP on SSB or 160 watts on CW.

The transmitter covers 3.5 to 30 mc except for the 5.0-6.5 mc range. Crystal sockets, crystals and bandswitch position are provided for ten 200 kc bands, with the standard amateur configuration equipped as follows: 3.4-3.6, 3.6-3.8, 3.8-4.0; 7.0-7.2,7.2-7.4; 14.0-14.2, 14.2-14.4; 21.0-21.2, 21.2-21.4, 21.4-21.6. Crystal sockets and bandswitch positions also are provided for three 200 kc bands between 28 and 29.7 mc. One of these sockets is equipped with a crystal for 28.5 to 28.7 mc. A fourteenth position, corresponding to the WWV position on the receiver, can be used for an additional 200 kc band in the 9.5-15.0 mc range, if desired.

Features which have made Collins amateur SSB equipment famous are incorporated into the 32S-1, including Mechanical Filter-type sideband generation; stable, permeability-tuned VFO; crystal-controlled HF oscillator; RF inverse feedback for better linearity; automatic load control for higher average talk power and protection against flattopping.

For ac operation, the 516F-2 Power Supply is used with the 32S-1; for 12 v dc operation, the 516E-1 used with the KWM-1 and KWM-2 may be used with minor modification.

Specifications

EMISSION: SSB — upper or lower sideband. CW—keyed tone.

POWER INPUT: 175 watts PEP on SSB. 160 watts on CW.

POWER OUTPUT: 100 watts PEP nominal (slightly lower on 10 meters) into 50 ohms.

OUTPUT IMPEDENCE: 50 ohms nominal with not more than approximately 2 to 1 SWR. Impedance match variable 25-100 ohms.

FREQUENCY STABILITY: After warm-up, over-all stability due to temperature, humidity, pressure and voltage variation is 100 cps. Calibration accuracy: 1 kc.

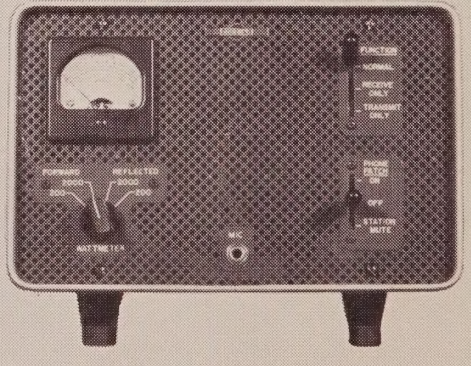
VISUAL DIAL ACCURACY: 200 cps on all bands.

ELECTRICAL DIAL ACCURACY: After calibration: 300 cps on all bands.

HARMONIC AND OTHER SPURIOUS RADIATION: Carrier suppression —40 db. Unwanted sideband —50 db. Oscillator feed-through and/or mixer products —50 db. Second harmonic —50 db. 3rd order distortion —30 db.

75S-1 Receiver

312B-4 Speaker Console



312B-4 Speaker Console

The 312B-4 (pictured between 75S-1 and 32S-1 below) houses a speaker, and RF directional wattmeter with 200 and 2000 watt scales, and switches for various station control functions.

75S-1 Receiver

The 75S-1 provides SSB, CW and AM reception on all amateur bands between 3.5 and 29.7 mc. It is capable of coverage of the entire HF spectrum between 3.5 and 30 mc by selection of the appropriate HF heterodyning crystals.

The standard amateur configuration includes crystal sockets, crystals and bandswitch positions for: 3.4-3.6, 3.6-3.8, 3.8-4.0; 7.0-7.2, 7.2-7.4; 14.0-14.2, 14.2-14.4; 21.0-21.2, 21.2-21.4, 21.4-21.6. Crystal sockets and bandswitch positions are also provided for three 200 kc bands between 28 and 29.7 mc, with one of the sockets equipped with a crystal for 28.5 to 28.7 mc. A crystal and bandswitch position is also provided for 14.8-15.0 mc for reception of WWV and WWVH for time and frequency calibration data.

The same standard of excellence and many of the design features of the 75A-4 are incorporated in the 75S-1. These include dual conversion with a crystal-controlled first heterodyning oscillator; bandpass first IF; stable, permeability-tuned VFO; RF amplifier designed to minimize cross modulation products; Mechanical Filter; excellent AVC characteristics; and both product and diode detector.

New features include the use of only 150 volts on vacuum tube plates, use of silicon diodes in lieu of conventional high vacuum rectifier; and choice of three degrees of selectivity (with optional CW filter).

A power connector at the rear of the 75S-1 chassis provides for disabling the internal ac power supply so that the 12 v dc power supply for the KWM-2 may power the receiver as well as the transmitter.

Specifications

VISUAL DIAL ACCURACY: 200 cps on all bands.

ELECTRICAL DIAL ACCURACY: (after calibration) 300 cps on all bands.

SENSITIVITY: The CW sensitivity is better than 1 microvolt (with a 50-ohm dummy antenna) for a 15 db signal-plus-noise-to-noise ratio.

SELECTIVITY: 2.1 kc Mechanical Filter for SSB; 0.5 kc Mechanical Filter (not supplied) for CW; 4.0 kc IF transformer passband for AM.

SPURIOUS RESPONSE: Image rejection is more than 50 db. Internal spurious signals below 1 microvolt equivalent antenna input.

30S-1 Linear Amplifier

The 30S-1 is a completely self-contained, single tube, grounded grid linear amplifier. Requiring 70 to 100 watts driving power (from the 32S-1 or KWM-2, for example), it provides the full legal power input for SSB (1 kw average) or 1 kw input for CW. The tube used is the Eimac 4CX1000A. The 30S-1 may be used on any frequency between 3.4 and 30 mc.

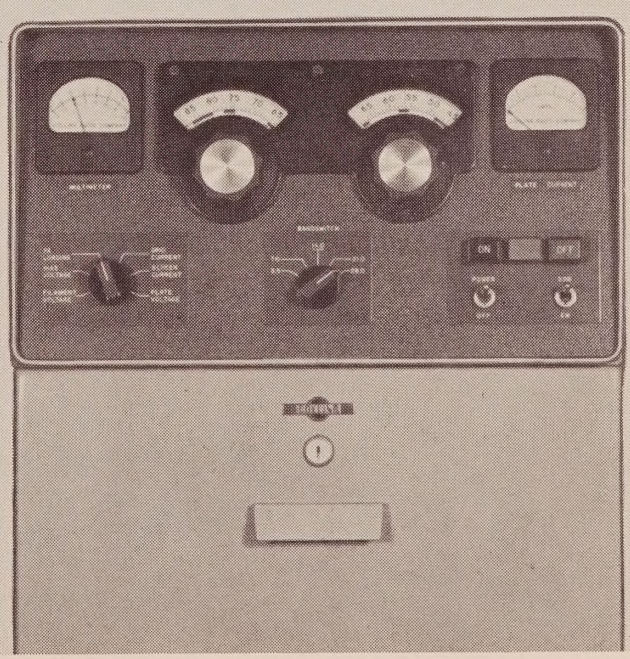
The 30S-1 may be loaded into an antenna without exceeding the legal dc input of 1 kw during tune-up. Front panel switching makes two different power levels immediately available for SSB operation: 100 watts from the exciter alone or the full 1 kw meter average input for SSB. The air blower for the 4CX1000A operates quietly — barely audible in a quiet room. The power supply for the 30S-1, which is housed in the lower portion of the cabinet, provides cathode bias voltage, screen voltage and 3000 volts for the 4CX1000A plate. Space is provided in this compartment for the 516F-2 Power Supply.

Extended Frequency Versions of the S/Line

The 32S-1 and 75S-1 are available in extended frequency versions, designated the 75S-2 and 32S-2. The two differ from the original only in that an additional crystal board has been added beneath the chassis. In this board is placed the standard complement of ham band crystals normally received with the equipment. The upper board is left empty so that the amateur may place whatever additional crystals he may desire up to a total of 14. A front panel switch is added to allow switching between the two crystal boards.

32S-1 Transmitter

30S-1 Linear Amplifier



Collins

S/LINE accessories and KWM-2

302C-3 Directional Wattmeter– Measures forward and reflected power on 200 and 2000 watt scales. Coupler unit mounts separate from indicator-control box. Power loss and mismatch introduced by the instrument are negligible.

B312-1 Directional Coupler – The coupler unit from the 302C-3 for amateurs who desire to utilize an optional meter and switch for a customized fixed installation or for a mobile installation.

351E Table Mounts – For mounting the S/Line and KWM-2 on planes, boats, etc. May be fastened to any flat surface. Front clamps attach to the feet of the units for secure hold-down. 351E-1 for 32S-1, 75S-1; 351E-2 for 312B-4, 516F-2; 351E-3 for 312B-3, 351E-4 for KWM-2.

351D-2 Mobile Mount – Provides secure mounting for KWM-2 in most automobiles. Cantilever arms fold out of the way when KWM-2 is removed.

Mating plugs connect power, receive-transmit antenna, noise blanker, antenna and antenna control as KWM-2 slides into place. Cables included.

312B-5 Speaker Console and External PTO– Used with KWM-2 in fixed station operation to provide separate receiving and transmitting control, and directional wattmeter.

399C-1 Speaker and External PTO–Contains speaker and external PTO for separate receiver and transmitter control of KWM-2.

136 Series Noise Blankers – Provide effective reduction of impulse-type noise, particularly ignition noise. 136A-1 for 75S-1; 136B-1 for KWM-1; 136B-2 for KWM-2; 136C-1 for 75A-4.

312B-3 Speaker – Contains a 5″ x 7″ speaker and connecting cable. Attractively styled to match receiver and transmitter.

516F-2 AC Power Supply– Operates from 115 v ac, 50-60 cps. Provides all voltages for the 32S-1.

516E-1 Power Supply – Operates from 12 v dc. Provides all required voltages for the KWM-2 or 32S-1 and 75S-1 for mobile or portable operation. Transistorized for maximum efficiency and minimum maintenance. The 516E-2, a 28 v dc supply may also be used.

For addresses of Collins dealers or further information and complete specifications on the entire Collins S/Line and accessories, write to: Amateur Sales, Collins Radio Company, Cedar Rapids, Iowa.

COLLINS

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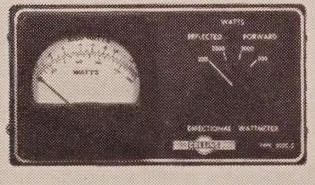
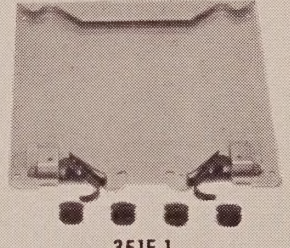
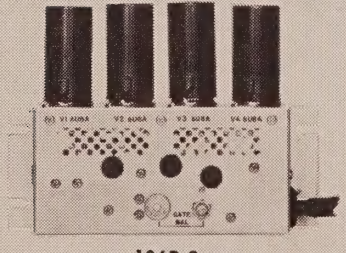

302C-3


351E-1

312B-5


136B-2

516F-2

516E-1